



## Question 1: What are the principal problems with existing protective clothing PPE?

- Examining the relationship between equipment stress and protection needed
  - Avoiding overprotection
- Difficulties related to fit, sizing combinations, and anthropometric concerns
  - Sizing needs: weight, height, etc.
  - Gender concerns and variables such as pregnancy
- Useful life of protective clothing
  - Service life
  - Shelf life
  - Usability
  - Reusability



## **Question 2: What are the emerging issues, hazards, and threats related to protective clothing PPE?**

- Changing nature of hazards faced by end users
  - Emerging threats
  - Nanoparticles
  - Biohazards
- Issues related to decontamination
  - Effectiveness of decontamination
  - Persistence of decontamination agents
  - Verification of successful decontamination
- Relationship between test criteria and real use
- Durability testing



### **Question 3: What are the primary challenges for manufacturers to design and produce protective clothing PPE that can be certified?**

- Economics; cost and market demand
- Systems/ensemble perspective vs. use and certification of individual components
- Regulation and enforcement
- Many standards



#### **Question 4: Are there very near-term things that can be done to effect almost immediate improvements to protective clothing PPE?**

- Identify research areas presenting the best “bang for the buck”
- Improve the innovation cycle (specification vs. performance standards)
- Special environment ensembles (e.g., OR)
- Suitability listing of components



## **Question 5: What are the two or three most important things that NIOSH should do to support the development and use of advanced protective clothing PPE?**

- Increased communication with, and input from, end users
- Research improvements – work sharing
  - Collaboration among industry, academia, and government
- Increased surveillance of equipment already in use, and any associated accidents
  - Aging
  - Service life
  - Web reporting of equipment problems